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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/373,355	08/12/1999	GARO J. DEDERIAN	M4065.0069/P	2515

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EXAMINER

NGUYEN, CUONG QUANG

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 03/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/373,355

Applicant(s)

DEDERIAN, GARO J.

Examiner

Cuong Q Nguyen

Art Unit

2811

-- Th MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37 and 39-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 37 and 39-45 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2811

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claims 37, and 39-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayashi et al. (US 6,265,738).

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 37, and 39-45 rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (US 6,265,738).

Hayashi et al. discloses a capacitor structure comprising: a continuous smooth bottom electrode (410, a first electrode) of Pt; a capacitor dielectric (420) formed on the bottom electrode; a continuous smooth upper electrode (422) of Pt formed on the

Art Unit: 2811

capacitor dielectric layer. See Hayashi et al.'s Fig.4 and col.7 lines 46-60 and col.8 lines 4-6.

Hayashi et al. does not teach that at least one of first and second electrodes has a thickness of about 50 angstroms to about 1000 angstroms.

It would have been obvious to one of ordinary skill in the art to provide the one of first and second electrodes having a thickness in the range as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPTO 233.

Claim 37, and 39-45 rejected under 35 U.S.C. 103(a) as being unpatentable over Woo et al. (US 6,054,331).

Woo et al. discloses a capacitor structure comprising: a continuous smooth bottom electrode (410, a first electrode) of Pt. See Woo et al.'s Fig.8C and col.12 lines 53-60.

Since Woo et al. teaches that the smooth Pt layer is a bottom electrode of a capacitor, therefore, the capacitor dielectric and upper electrode of capacitor are taken to be inherently taught by Woo et al.

Woo et al. does not teach that at least one of first and second electrodes has a thickness of about 50 angstroms to about 1000 angstroms.

Art Unit: 2811

It would have been obvious to one of ordinary skill in the art to provide the one of first and second electrodes having a thickness in the range as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPTO 233.

The limitations “formed in the presence of both oxygen and nitrous oxide at a predetermined ratio with a combined flow rate in the range of about 1500 sccm to about 2500 sccm.” in claim 37, “formed by depositing platinum in a CVD deposition chamber in the presence of both oxygen and nitrous oxide at a predetermined temperature and at a pressure of from about 10 to about 1000 Torr” in claim 41, “temperature is from about 250 ° C to about 300 ° C.” in claim 42 and “pressure is from about 15 to about 30 Torr” in claim 43 are taken to be a product by process limitation, it is the patentability of the claimed product and not of recited process steps which must be established.

Therefore, when the prior art discloses a product which reasonably appears to be identical with or only slightly different than the product claimed in a product-by process claim, a rejection based on sections 102 or 103 is fair. A product by process claim directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See In re Fessman, 180 USPQ 324,326(CCPA 1974); In re Marosi et al., 218 USPQ 289,292 (Fed. Cir. 1983); and particularly In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final

Art Unit: 2811

structure of the product “gleaned” from the process steps, which must be determined in a “product by process ” claim, and not the patentability of the process. See also MPEP 2113. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claim in “product by process” claim or not.

Response to Arguments

3. Applicant's arguments with respect to claims 37 and 39-45 have been considered but are not persuasive.

Applicants argue that Hayashi et al. and Woo et al. does not teach that at least one of first and second electrodes has a thickness of about 50 angstroms to about 1000 angstroms. In response, as above discussed, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (In re Aller, 105 USPTO 233). therefore, it would have been obvious to one of ordinary skill in the art to provide the one of first and second electrodes having a thickness in the range as claimed.

Applicants argue that the product-by process limitations “formed in the presence of both oxygen and nitrous oxide at a predetermined ratio with a combined flow rate in the range of about 1500 sccm to about 2500 sccm.” in claim 37, “formed by depositing platinum in a CVD deposition chamber in the presence of both oxygen and nitrous oxide at a predetermined temperature and at a pressure of from about 10 to about 1000 Torr” in claim 41, “temperature is from about 250 ° C to about 300 ° C.” in claim 42 and

Art Unit: 2811

"pressure is from about 15 to about 30 Torr" in claim 43 are perfectly acceptable because the claimed structure is formed by these process limitations. In response, Hayashi et al. and Woo et al. both used different process to form a semiconductor device substantially identical as claimed device. Applicants have to prove that the device is formed by the process as claimed is different than the device formed by the process in Hayashi et al. and Woo et al. It is the patentability of the final structure of the product "gleaned" from the process steps, which must be determined in a "product by process" claim, and not the patentability of the process. See also MPEP 2113. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claim in "product by process" claim or not.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2811

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

6. Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to CUONG Q NGUYEN whose telephone number is (703) 308-1293. The Examiner is in the Office generally between the hours of 6:30 AM to 5:00 PM (Eastern Standard Time) Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor TOM THOMAS who can be reached on (703) 308-2772. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or 308-7724.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center Receptionists whose telephone number is 308-0956.

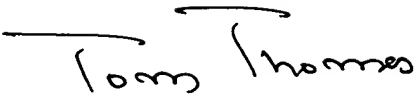
Serial Number: 09/373,355

Page 8

Art Unit: 2811

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March 15, 2002


TOM THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800